Department of Education
Office of Federal Student Aid

Rational Tool Implementation Support Team

FSA Upgrade Plan
DRAFT

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1. Overview

FSA has a number of projects using various tools within the Rational Analyst and Enterprise Studio suites as well as Rational ClearCase. As newer versions of these tools are released, FSA will need to upgrade these projects to the newer versions of the Rational toolset.

1.1. Objectives

The high level objectives of the upgrade strategy are; implement the enhanced application capabilities of Rational Suite's ClearQuest and RequisitePro and internet access (meet VDC/OIG audit criteria) as quickly as possible for both new and existing users, minimize down time for the existing users, and to efficiently complete the upgrade. The upgrade strategy does not directly address performance and reliability enhancements for the existing Rational environment.

1.2. Upgrade Summary

There is an existing an existing Rational 2001a implementation that includes;

- An NT 4.0 server, known as "rational" on the VDC Production LAN that hosts Rational 2001a application, an IIS 4.0 web server, ClearCase 4.1 (2001) for NT, RCO server, a PDC for the RATIONALDOM (a domain dedicated to supporting Rational ClearCase and Suite), Rational 2001a web components, FLEXlm server, and Operational Rational 2001a Access database components
- Rational 2001a clients on both ACN and EDNet
- Operational Rational 2001a components on Oracle serverHPV2 (prod)
- IE browser client on both EDNet and ACN

See the following Environments section for details on the existing environment.

The interim environment will include;

- A W2K server, on the VDC Development LAN that hosts, a W2K IIS 5.0 IntERnet web server, Rational 2002 web components, and RCO server
- Rational 2002 test clients on both ACN (with RCO client) and EDNet
- Operational Rational 2002 database components for 2002 on Oracle server HPV2 (prod)
- Backup Rational 2001a database components for 2001a on Oracle server HPV2 (prod)
- Development Rational 2002 database components for 2002 on Oracle server HPV1 (dev)
- The existing NT 4.0 server, known as "rational" on the VDC Production LAN that hosts Rational 2001a application, an IIS 4.0 IntRAnet web server, ClearCase 4.1 (2001) for NT, RCO server, a PDC for the RATIONALDOM (a domain dedicated to supporting Rational ClearCase and Suite), Rational 2001a web components, and FLEXlm server
- IE browser client on both EDNet and ACN

The upgraded environment will include;

- A W2K server, on the VDC Development LAN that hosts, a W2K IIS 5.0 IntERnet web server, Rational 2002 web components, and RCO server
- Rational 2002 operational clients on both ACN (with RCO client) and EDNet
- Operational Rational 2002 database components for 2002 on Oracle server HPV2 (prod)
- Development Rational 2002 database components for 2002 on Oracle server HPV1 (dev)
- The existing NT 4.0 server, known as "rational" on the VDC Production LAN that hosts Rational 2001a application, an IIS 4.0 IntRAnet web server, ClearCase 4.1 (2001) for NT, RCO server, a PDC for the RATIONALDOM (a domain dedicated to supporting Rational ClearCase and Suite), Rational 2001a web components, and FLEXlm server
- IE browser client on both EDNet and ACN

See the following Environments section for details on the upgraded environment.

2. High Level Approach

The high level approach to performing the upgrade with only one additional host follows.

1. Install, configure, and test the intERnet-enabled, Rational Analyst 2002 ClearQuest and RequisitePro and IIS 5 intERnet server without affecting ongoing operations.
2. Install, configure, and test the intERnet-enabled, Rational Analyst 2002 ClearQuest and RequisitePro and IIS 5 intERnet server without affecting ongoing operations.
3. Install, configure, and test 2002 clients and database components with the Rational 2002 intERnet server without affecting ongoing operations.
4. After validating the Rational 2002 intERnet environment against success criteria, designate it as the "operational" intERnet environment.
5. Implement the Rational 2002 intERnet environment for new projects/users (intRAnet only).
6. Migrate existing projects/users, a project at a time, from 2001a to the Rational 2002 intERnet environment.
7. Upgrade the existing Rational 2001a Rational Suite product web components on the existing rational host to Rational Suite 2002 web components for intRAnet web server with.
8. Leave the existing IIS 4.0 IntRAnet web server, ClearCase 4.1 (2001) for NT, RCO server, a PDC for the RATIONALDOM (a domain dedicated to supporting Rational ClearCase and Suite), and FLEXlm server on "rational" on the VDC Production LAN intact

3. High Level Schedule

Activity	Duration	Start	End
Configure DEV Oracle HPV1 Server for 2002	2 wks	6/2	6/17
Configure PROD Oracle HPV2 Server for 2002	3 wks	6/5	6/20
Install 2002 test clients	2wks	5/9	5/23
Get the W2K 2002 IIS 5.0 host	3 wks	5/31	7/17
Site specific Quest and Pro install instructions		6/6	6/10
Plan peer review		6/13	6/17
Final Plan		6/17	
Install Rational Suite 2002 web components	2 days	7/20	7/22
Alpha test 2002 environment	2	7/22	7/27
Migrate existing CQ projects database export/import upgrade existing clients	1 wks	7/22	8/1
beta test	1wks	78/2	8/8
Implement 2002 for new projects install 2002 ops clients configure CQ2002 ops databases configure RP2002 ops databases	1wks	7/12	NA
Convert “rational” Suite 2001a to Suite 2002	2wks	7/13	7/25

4. Detailed Approach

The detailed approach to performing the upgrade with the addition of only one additional host follows. These steps map to high level approach.

1. Acquire a W2K host of sufficient capacity to serve as the combined “2002 application server” and IIS 5 intRAnet server. Can not be service pack 3 (must be 1 or 2). Either wait on analysis of the Rational SR# to determine if W2K Advanced server is supported or use W2K Server (not Advanced).
    a. The request has been made, the financing is being arranged.
    b. This host will serve as a prototype/test host for the 2002 upgrade.
    c. This host is referred to as the intERnet server. It provides both Rational 2002 intERnet web services.
    d. Once acquired, it will be delivered to Chuck/Jean. They will ensure current OS patch and IIS intERnet, RCO, and TBD domain set up. Access database will not be installed.
    e. This host will be located on the DEV LAN at the VDC. CSC will provide system admin support required to perform the upgrade.

f. After the OS and layered product installs, the RTS will install and configure the applications. It is expected that system admin support will be required.
g. The upgrade team will document all install and configuration settings in the host "run book" (see System Admin section). A table of directories, files, accounts, groups, and registry parameters and values that will be tuned to satisfy security and functional criteria will be maintained.
h. The "upgrade team" will have accounts. This includes Chuck, Jean, Paul, Jay, Samson, Dan, and Jeff. See the appendix for roles.
i. TBD will provide domain administration. Domain accounts will be needed to support the Rational install and web components. A separate PDC must be used. Also, see the ClearCase section below.

2. Install, configure, and test the intERnet-enabled, Rational Analyst 2002 ClearQuest and RequisitePro and IIS 5 intERnet server without affecting ongoing operations.
    a. Only software and setups needed to test and rollout this host as the Rational 2002 intERnet server will be installed.
    b. Some applications to be tested include, CQ, ReqPro, Administrator, and FLEXlm. RationalConsole, and Access will not be implemented as par t of the upgrade
    c. Access to this host will be through RCO. There will be RCO accounts for CSC admins as required, Paul, Jay, Dan., and as needed to support RCO client access.
    d. The change process for development hosts will be followed (see Change Control section).
    e. A table of directories, files, accounts, groups, and registry parameters and values that will be tuned to satisfy security and functional criteria will be maintained.
    f. As many permissions as possible will be removed as testing progresses and for the final "run for record" tests (see Change Control section).
    g. Rational 2002 Web components will be installed by RTS. CSC will provide web server administration.
    h. A web page for this server will be setup by RTS.
3. Install, configure, and test 2002 clients and database components with the Rational 2002 intERnet server without affecting ongoing operations.
    a. Rational Suite 2002 clients will be installed on both ACN and EDNet hosts. The client list is TBD. The clients may also support RCO access to the combined server.
    b. Clients will either be 2001a OR 2002. Not both and no mix and match. Client installation procedures will be documented.
    c. The development Oracle server HPV2 will be configured to host both the 2002 tables and 2001a tables with out interrupting ongoing 2001a service.
    d. HPV1 will be configured to support testing.
    e. A TBD sample of existing CQ databases will be populated into HPV1 test 2002 databases for testing.

    f. See section 6.1.3 for the detailed procedures for configuring the Oracle server and managing and populating test databases.
    g. The success criteria and test suite are in (see the Test section)
    h. Domain accounts will be managed from the existing RATIONALDOM PDC.
4. After validating the Rational 2002 intERnet environment against success criteria, designate it as the "operational" Rational 2002 intERnet environment. Note that the "old" environment continues to support operations until all existing projects are rolled off.
    a. Open a CR and ensure circulation to all currently hosted application users/admins????
    b. Migrate existing RP/CQ projects/users, a project at a time, from 2001a to the Rational 2002 intERnet environment for new projects/users. The detailed steps are in section 6 and 7.
    c. The detailed procedures for configuring the Oracle server and managing and populated ops databases are in the ClearQuest section.
    d. Rational 2002 clients will be installed for all new projects.
    e. The 2001a Oracle repositories will remain active for approximately one week after all projects have been converted to 2002. A backup tape I.D. containing the 2001a repositories will be identified.
5. Implement the 2002 intERnet environment for new projects/users (intRAnet only).
    a. New projects/users are implemented on the Rational 2002 intERnet environment. EzAudit, ConsistentAnswers, DMS?, and all other new RP and CQ projects will use the Rational 2002 intERnet environment.
6. Upgrade the existing Rational 2001a Rational Suite product web components on the existing rational host to Rational Suite 2002 web components for intRAnet web server with
    a. After the Rational 2002 intERnet environment is operational, upgrade the existing "rational" hosted Rational 2001a to Rational 2002
    b. may have some down time for existing users
    c. Rational 2001a users/clients can not concurrently be Rational 2002 users/clients
7. Leave the existing IIS 4.0 IntRAnet web server, ClearCase 4.1 (2001) for NT, RCO server, a PDC for the RATIONALDOM (a domain dedicated to supporting Rational ClearCase and Suite), and FLEXlm server on "rational" on the VDC Production LAN.
    a. FLEXlm will remain intact
    b. the PDC will remain intact.
    c. other applications and clean ups could be performed after validation
    d. do not upgrade from NT 4.0 to W2K (would impact the PDC)
    e. do not upgrade ClearCase

4.1. Primary Domain Controller

The existing rational host is the PDC for RATIONALDOM. This domain supports the existing ClearCase and Rational Suite. The 2002 version of Rational Suite can not be co-hosted on a PDC and it is recommended not to co-host a PDC with ClearCase. This PDC will support both the 2001a and the 2002 environments.
Except for IUSR account, there are not any know changes to the existing accounts. There are not any new accounts needed.

5. Environment Descriptions

The following tables provide a depiction of the hosts, location, application, and components of the existing and proposed environments.

5.1. Existing Environment

LAN/Host	Application	Application Components
PROD/Rational Host	NT4 IIS (4.0)Web Server	
	ClearCase 4.1 server/client	CC 4.1 application CC 4.1 Web components
	Rational Suite 2001a	CQWeb 2001a components CQ 2001a schema repos CQ 2001(not a) schema repos (Access database) RP 2001a project database (Access) RPWeb 2001a components
	Flex LM	
	RCO	RCO server
	PDC	RATIONALDOM Rational Suite
EDNet/2001aClient Hosts (Users desktops)	Rational Suite 2001a client	CQ 2001a application client RP 2001a application client Oracle Client 8.0
ACN/2001aClient Hosts (Users desktops)	Rational Suite 2001a client	CQ 2001a application client RP 2001a application client Oracle Client 8.0
PROD/HPV2/Oracle Server	CQ 2001a RP2001a	CQ 2001a schemas repos CQ 2001a user data RP 2001a project database
ACN/RCO client	RCO client	RCO client

5.2. Interim Environment

Summary –The table below depicts the test environment.

1. Note that the existing production environment is concurrently supporting operations while this interim environment is implemented
2. Note the addition of 2002 table space on the development Oracle server HPV1.
3. Note the addition of 2002TestClients. It is problematic to co-host 2001a and 2002 client installs.

LAN/Host	Application	Application Components
DEV/Rational 2002 intERnet server	W2K IIS (5.0)Web Server	Internet
	Rational Suite 2002	CQ 2002 Web components RP 2002 Web components
	RCO	RCO server
DEV/HPV1/Oracle Server Host	CQ 2002 RP 2002	CQ 2002 schemas CQ 2002 user data RP 2002 project database
EDNet/2002TestClients	Rational Suite 2002 client	CQ 2002 application client RP 2002 application client Oracle Client 8.0 (+7?)
ACN/2002TestClients	Rational Suite 2002 client	CQ 2002 application client RP 2002 application client Oracle Client 8.0 (+7?)
ACN/RCO host	RCO	RCO client
TBD	PDC	RATIONALDOM Rational Suite
PROD/Rational Host	NT4 IIS (4.0)Web Server	
	ClearCase 4.1 server/client	CC 4.1 application CC 4.1 Web components
	Rational Suite 2001a	CQWeb 2001a components RPWeb 2001a components
	Flex LM	
	RCO	RCO server
	PDC	RATIONALDOM Rational Suite

5.3. Rational 2002 Internet Ops Environment

Summary –The table below depicts the combined Ops Environment.

1. Note the return to the PROD Oracle server, HPV2.

LAN/Host	Application	Application Components
DEV/Rational 2002 intERnet server	W2K IIS (5.0)Web Server	Internet
	Rational Suite 2002	CQ 2002 Web components RP 2002 Web components
EDNet/2002Clients	Rational Suite 2002 client	CQ 2002 application client RP 2002 application client Oracle Client 8.0 (+7?)
ACN/2002Clients	Rational Suite 2002 client	CQ 2002 application client RP 2002 application client Oracle Client 8.0 (+7?)
PROD/HPV2/Oracle Server Host	CQ 2002 RP 2002	CQ 2002 schemas CQ 2002 user data RP 2002 schema
DEV/HPV1/Oracle Server Host	CQ 2002 RP 2002	CQ 2002 test schemas CQ 2002 test data RP 2002 project test database
ACN/RCO host	RCO	RCO client
PROD/Rational Host	NT4 IIS (4.0)Web Server	
	ClearCase 4.1 server/client	CC 4.1 application CC 4.1 Web components
	Rational Suite 2001a	CQWeb 2001a components RPWeb 2001a components
	Flex LM	
	RCO	RCO server
	PDC	RATIONALDOM Rational Suite

6. Detailed Procedures

6.1. ClearQuest

TBS JAY.DAN, SAMSON
The ClearQuest upgrade should be handled as detailed in the ClearQuest Installation Guide:

```
in the tnsnames.ora file, for work on HPV1 set 'HOST=
4.20.15.59' and on HPV2 set 'HOST=4.20.15.40'.  The 'tnsnames.ora' file
should be put in the '/oracle/ora81/network/admin' folder on the test
client's hard drive.
```

6.1.1. ClearQuest for the administrator

The following steps summarize the upgrade procedure for the administrator.

- If you want to author report formats, upgrade to Crystal Reports ™ 8.0.
- Install ClearQuest. It is not necessary to uninstall previous versions of ClearQuest before installing ClearQuest. See “Installing and configuring ClearQuest for an administrator” on page 29.
- Installing ClearQuest may reset the connection to the ClearQuest database. Launch the **Rational ClearQuest Maintenance Tool** to establish a new connection to your ClearQuest database. See “Connecting to a schema repository” on page 119.
- If you have added integrations or packages to your ClearQuest schema, upgrade the packages, see “Upgrading packages basics” on page 120.
- Configure ClearQuest Web as needed. See “Installing and configuring ClearQuest Web” on page 55.

6.1.2. ClearQuest for the user

Install ClearQuest client software. It is not necessary to uninstall previous versions of ClearQuest before installing ClearQuest. See “Installing and configuring ClearQuest Windows for users” on page 49.
Installing ClearQuest resets the connection to the ClearQuest database.
Run ClearQuest Maintenance Tool to establish a new connection to your ClearQuest database. See “Connecting to a schema repository” on page 119.

1) Can we turn off ClearQuest logon IDs for ClearQuest

- First point to keep in mind is that there are now more user privileges available for ClearQuest users in v2002. This is part of a Redesign of the user administration component.
- Second, there are two sections that will go through working with user privileges. In the v2002 documentation they are “Assigning User Access Privileges” and “Subscribing users and groups to databases”, which are on pages 141 and 150 in

the ClearQuest Administrator's Guide. Please check for the related sections in the v2001a documentation.

General Issues:

- Please take a look at the Using Security in ClearQuest section of the ClearQuest Administrator's Guide (V2002). This section will help you determine how best to configure the user permissions in the new 2002 configuration to best secure the data.

6.1.3. Oracle

CQ Admin Provide CQ Oracle component details
Table space requests
Table space creation
ClearQuest SQL script execution on the Oracle server.
Repository loads
Repository conversion
Access to the PROD or Dev Oracle instance is toggled via IP and prt numbers in the tnsnames.ora file on the client. Specificallly:
In the path \tnsnames.ora file on the 2002 desktop client set HOST=4.20.15.40 to HOST=4.20.15.59.

Quest High Level Oracle Conversion

HPV1/DEV

1. Get space on HPV1
2. Copy the 2001a schema repository from HPV2 to HPV1
3. Copy a few existing 2001a repositories from HPV2 to HPV1
4. In test environment, Dry run converting the schema repository from 2001a to 2002
5. In test environment, Dry run converting the projects from 2001a to 2002
6. Execute Rational 2002 test suites using HPV1 and the converted schema repository and projects

HPV2/PROD

7. Get ((existing space)*1.1)2 created on HPV2
8. Freeze all schema repository changes. Convert the 2001a schema repository to 2002.
9. For each project, one project at a time
    a. Disable the access to 2001a project database through CQ admin
    b. Convert the project database from 2001a to 2002
    c. CQ admin perform basic tests against 2002 project
    d. Update database name in CQ admin to point 2002 project database
    e. Enable access to project data through CQ admin
    f. User access new data through new web page
    g. A few desktop clients are upgraded the same day
10. When all projects have been converted, beta test for 5 days

11. Unfreeze schema repository changes
12. Continue normal ops with 2002

6.1.4. Access Database

All Access Database will be converted to Oracle before the upgrade. Access Database will not be installed on the upgrade environment.

6.1.5. PDC setup

CQ Admin provide CQ PDC requirements

1) Create an anonymous IUSR domain? account in the ???? group?????
2)

6.1.6. Web sever

CQ Admin Provide CQ Web component details
Install and configure ClearQuest Web components as described in
??????????????????????????

1) Anonymous IUSR account needs advanced privileges, Access this computer from the network (IG security violation). Log on locally. Log on as a service.
2) Allow IUSR full control of HKLM\Software\Rational Software\ClearQuest
3) Allow IUSR to have full access to \program files\Rational\ClearQuest\WWW\cache
4) Set the permissions for the \Program Files\Rational\ClearQuest\WWW\cache folder are changed to only read and write (not "Full Access").
5) Set the quota for the cache directory so that the disk can not be completely filled.

6.2. ReqPro

TBS JAY, DAN, SAMSON
To upgrade the ReqPro software, follow the steps documented in the ReqPro Installation Guide:
Here is a list of general requirements for upgrading Rational RequisitePro at your site. For information about the order in which you should upgrade integrated products and convert schemas and data, see *Administering Rational Suite* and the *Rational Suite Release Notes.*
For information on removing RequisitePro from your system, see *Removing RequisitePro* on page 13.

1. An Anonymous IUSR account called ReqWeb is needed to access requisite web components. This anonymous IUSR ReqWeb account needs full NT administrator rights.

OR ?????

2. If you do not wish to add the ReqWebUser to the domain admin group, you can still configure RequisiteWeb to open RequisitePro projects on network shared folders. This is done by:
    a. Create a Domain User "ReqWebUser" and give the "ReqWebUser" Access and Launch permissions via DCOM.

b. .Assign Launch Permissions to the Local Administrators Group
c. Grant the domain user "ReqWebUser" both Read and Write permissions to the shared folders containing the RequisitePro project data (the folders containing project documents, .rqs file and .rql file).

3. To create a Domain User "ReqWebUser" and give the "ReqWebUser" Access and Launch permissions via DCOM:
    a. 1.On the Start menu, click Run, and type dcomcnfg. Note: At this point you may see the DCOM Configuration Warning dialog box. Disregard the warning and proceed to the next step.
    b. Select the Default Security tab. Under Default Access Permissions, click the Edit Default button.
    c. In the Registry Value Permissions dialog box, click Add.
    d. At the Add Users and Groups dialog box, select your local machine from the List Names From drop-down list box.
    e. Select the Administrators group in the Names list and click Add.
    f. At the Type of Access field, select Allow Access. Click OK twice to return to the Distributed COM Configuration Properties dialog box.
4. To Assign Launch Permissions to the Local Administrators Group:
    a. Select the Default Security tab. Under Default Launch Permissions, click the Edit Default button.
    b. In the Registry Value Permissions dialog box, click Add.
    c. At the Add Users and Groups dialog box, select your local machine from the List Names From drop-down list box.
    d. Select the Administrators group in the Names list and click Add.
    e. At the Type of Access field, select Allow Launch. Click OK twice to return to the Distributed COM Configuration Properties dialog box.
    f. Close DCOM and restart your system.

6.2.1. Oracle

RP Admin Provide RP Oracle component details
Table space requests
Table space creation
Repository loads
Repository conversion
The RequisitePro database will be automatically upgraded when you access the database with the new v2002 client. Also, there are not any current ReqPro Oracle databases, there is not any 2001 to 2002 upgrade to be done.

6.2.2. Access

All ReqPro Access Database will be deleted prior to the upgrade. All ReqPro Access Database administration is beyond the scope of this document.

6.2.3. PDC setup

RP Admin provide RP PDC requirements

1. An Anonymous IUSR account called ReqWeb is needed to access requisite web components. This anonymous IUSR ReqWeb account needs full NT administrator rights.
2. OR ?????
3. If you do not wish to add the ReqWebUser to the domain admin group, you can still configure RequisiteWeb to open RequisitePro projects on network shared folders. This is done by:
4. Create a Domain User "ReqWebUser" and give the "ReqWebUser" Access and Launch permissions via DCOM.
5. .Assign Launch Permissions to the Local Administrators Group
6. Grant the domain user "ReqWebUser" both Read and Write permissions to the shared folders containing the RequisitePro project data (the folders containing project documents, .rqs file and .rql file).

6.2.4. Web sever

RP Admin Provide RP Web component details

6.3. Rational Suite Administrator

TBS DAN, PAUL
Provide details

6.4. 2002 Desktop Clients

TBS JAY, SAMSON
All test and Operational clients will be located in the UCP, both EDNet and ACN.
May require EDNet LAN administration support
Only 5% of users on desktop clients. The rest are web clients
Block old clients from accessing new data stores to prevent corruption
Lock out users through Rational Project
Fixed IP addresses for ACN clients
The Quest and Pro specifics are documented in the respective section.

6.5. 2002 Web Clients

Only ?? browser version ?? is supported. Cookies must be enabled.

6.6. System Admin

The OS and layered products will be installed and configured and the server will be implemented on the VDC DEV LAN in accordance with existing VDC and FSA procedures.

6.6.1. Run Book

The system administrators will maintain a contemporaneous log (runbook) of their work on the new hosts. The runbook identifies all software and versions installed on the host.

the application administrators will provide the application specific software and version information for inclusion in the runbook. Also, the application administrators will maintain application set up tables that log the site-specific options and settings of the application installation and configuration. These setup tables will be included in the runbook.

6.6.2. Web Site

IP address
URL is https://fsatool.ed.gov
DNS entry
initial page

6.6.3. Rational 2002 server

1) Will be W2K standard server SP 2
2) Will be monitored for memory errors
3) Rational documentation will NOT be installed
4) Adobe will NOT be installed
5)

6.7. PDC

TBS JEAN Provide the PDC details

1) Determine clean up details
2) Allow for some flexibility in account configurations early in the phase
3) Account setup and maintenance procedures

6.8. FLEXlm

The existing FLEXlm server will support the upgraded environment and will not be migrated to the new W2K Rational 2002 host. There are not any known license utilization issues. License utilization enhancement is not in the scope of the upgrade.

7. Success Criteria

A set of success criteria and a test suite designed to validate that the new environment meets or exceeds the criteria have been developed.

7.1. ClearQuest

TBS JAY,DAN, SAMSON provide the CQ criteria and test suite

7.1.1. Criteria -

1) Setup of test client:
    a. Install Rational Suite 2002, Crystal Reports, and Oracle 8.0.5 client on the identified test client. Be sure to add the 'sqlnet.ora' and 'tnsnames.ora' files to 'c:\oracle\ora81\network\admin' folder after installing Oracle.
    b. Ensure that in the 'tnsnames.ora' file on the test client, the HOST variable is set to '4.20.15.59' – the Development Oracle box (HPV1).
2) Connect to the test schema repository:

a. Open the ClearQuest Maintenance Tool.
b. Select 'Connect to Existing schema repository'.
c. Select the appropriate Oracle tablespace and verify the connection is successful.

3) Upgrade the test schema repository and user databases:
   a. Open the ClearQuest Maintenance Tool.
   b. Select 'Upgrade schema repository and/or user database(s)'.
   c. Ensure the correct schema repository is shown on the next page.
   d. Select the databases to upgrade on the next page (the schema repository and 2 test user databases), and map the databases to the new test tablespaces on HPV1.
   e. Ensure all 3 upgrades are successful.
4) Test the upgrades:
   a. Connect to the new schema repository – the steps for this are similar to step 2 above.
   b. Run tests on the user databases:
      i. Open the ClearQuest desktop tool.
      ii. Login to one of the two upgraded user databases.
      iii. Query the existing data to make sure it was upgraded successfully.
      iv. Run an existing report.
      v. Modify an existing record through the lifecycle.
      vi. Create a new record and take it through the workflow.
      vii. Create a new query and ensure it works with new and existing data.
      viii. Create a new report and ensure it works with new and existing data.
      ix. Repeat i - vii for the other user database.
   c. Update a schema:
      i. Open the ClearQuest Designer Tool and check out one of the two upgraded schemas.
      ii. Add a new field to a form and make the field mandatory.
      iii. Modify the choices available for an existing field and make it optional.
      iv. Check in the schema and upgrade the database.
      v. Add a new user to one of the user databases.
      vi. Repeat the steps in 4b to test the upgraded schema version using the new user.

7.2. ReqPro

TBS JAY,DAN, SAMSON provide the RP criteria and test suite

7.3. ClearCase

TBS PAUL provide the CC criteria and test suite

7.3.1. Criteria -

The criteria is that the FMS code repository and all existing FMS functionality and performance is maintained.

7.3.2. Suite –

After the Rational Suite 2002 upgrade on the existing host, rational, validate basic connectivity and co/edit/ci. Monitor for user reported problems.

8. Roles

A fairly rough draft of the planned roles.

Role	Person	Tasks
CQ Admin	Jay	Complete section 6.2
ReqPro Admin	Jay	Complete section 6.3
CC Admin	Paul	Complete section 6.1
Oracle DBA	Rich	Complete section 6.7
Access DBA	Samson	Complete section 6.8
Upgrade Lead	Paul	
Rational Consultant	Dan	Complete section6.4
W2K admin	Chuck	
Domain admin	Jean	Complete section 6.9
Security Assurance	Chuck	Perform section 9
FLEXlm admin	Jean	Complete section 6.10
WebMaster	Samson	Develop new web page
WebServerAdmin	Chuck	Provide web server support

9. Security Requirements Risk

Enhanced security is a primary driver for the Rational 2002 upgrade. Specifically, re-architecting the Rational environment to provide VDC and FSA security compliant internet access to the Rational Suite is a primary objective of the upgrade effort. It has been identified that written detailed security requirements are not available to the upgrade team. Without such requirements, there is a high risk that the new environment could fail some unknown requirement. To help mitigate, though not alleviate, this risk, the following process will be followed.

- The VDC will conduct security reviews and audits using IGA security criteria at specific points in the life cycle of the upgrade project.
- An initial review of the proposed response by Rational
- Weekly checks of the plan content
- Detailed review of the Rational supplied site specific installation instructions. Provide security compliance assurance as planned.

- In depth security review at the informal plan peer review. Including detailed review of all planned hardware and software installations and configurations. Including all domain membership and accounts and permissions, directory, share, and file creations and permissions, registry settings, cache sizes, web site settings. Provide security compliance assurance as planned.

- Application Install and Configure - Review adherence to the Change Control process identified in this plan at application installation and configuration. Review adherence to maintaining the application setup tables. Provide security compliance assurance as implemented.

- Application Alpha Test - Review adherence to the Change Control process identified in this plan at application installation and configuration. Review adherence to maintaining the application setup tables. Provide security compliance assurance and approval for operations as implemented.

- Application Beta Test - Review adherence to the Change Control process identified in this plan at application installation and configuration. Review adherence to maintaining the application setup tables. Provide security compliance assurance and approval for operations as implemented.

10. Work Plan

Develop a Microsoft Project Plan that identifies dependencies and durations of tasks. A separate document

11. Change Control

The upgrade activities include adding new hosts and components and changing existing hosts and components. The upgrade change control process includes the development of a well formulated and communicated plan (this document), existing VDC and FSA processes and standards, and host "runbooks" and application set up tables.

11.1. The Upgrade Plan

Provides all team members with the scope of the upgrade and identifies the specific host and component changes (additions, modifications, and deletions) that will occur. The plan provides an estimate of schedule and resource requirements and serves as a tool for managers to schedule the required resources.

11.2. Existing VDC and FSA processes and standards

Existing processes and standards will be followed for implementing new hosts and changing existing hosts. These include the CR process, system administration standards, and security standards.

11.3. runbooks and set up tables

The plan identifies that additional hosts will be implemented and installed, configured, and tested with both system and application products. The plan identifies the criteria that the newly installed, configured and tested environment must meet before it can be transitioned to operational support. As identified below, CRs will be used to track these changes. In addition to the CRs, the system administrators will maintain a contemporaneous log (runbook) of their work on the new hosts. Also, the application administrators will maintain application set up tables that log the site-specific options and settings of the application installation and configuration.

11.4. CRs

The following CRs will be used to track the upgrade changes and activities.

1) Update the RATIONALDOM PDC – TBD - If add, modify, or delete accounts
2) Obtain and release Oracle table space on HPV2 and 1 - Separate CRs will be opened, one each for HPV1 and HPV2, to track changes to the Oracle server hosts. The details of the space requirements is TBS by Samson. The DBA will implement the CR.
3) Procure and setup W2K Rational 2002 intERnet server - If needed a CR will be opened to cover this work. This CR would cover the OS, layered products, and system admin products and will include placing the host on the VDC DEV LAN. The system administrators will be the implementers.
4) Upgrade 'rational' Rational Suite 2001a to Rational 2002. Remove Access. The system administrators and the RTS team will be the implementers.
5) Application Install, Configure, and Alpha Test - This CR will cover installing, configuring, and alpha test changes for the applications on the Rational 2002 intERnet server. This includes Quest, Pro, and Administrator. The RTS application admins are the implementers. This CR also covers application specific website configuration, the system administrators will implement web site specific changes. Alpha phase is defined as the period between application install and the cutover to (beta) operations.
6) Beta - The initial 1 –2 weeks of operational support defines the beta phase. It is expected that initial cutover to operations support will could produce unanticipated results. A CR will be opened well in advance of this phase to cover all changes to the environment needed to rapidly respond to operational issues.

12. Other

12.1. Beacon

It is expected that the Beacon ClearQuest migration will be completed by mid-June. If so, then the migration will be completed in the existing environment then converted the same as any existing project. The Beacon migration is beyond the scope of this document.

12.2. Enterprise Suite

The point products that comprise the Enterprise Suite will be installed as needed after the upgrade. The components to be installed as part of this upgrade are;

ClearQuest
ReqPro
Rational Suite Administrator

12.3. Access Database

Access will not be used in the upgrade environment

12.4. Oracle

Note that there is a need for additional Oracle space. It is assumed that there is not currently any space on HPV1. In addition to the existing space on HPV2 the following space is needed for the configure and test phase, space on HPV1 is required. The HPV1 space is estimated at about 50% of the operational space on HPV2. Also, some small amount of space on HPV1 should be retained indefinitely.
For the cutover to operations, we will need to double the space on HPV2 for about two weeks. After that we will need slightly more than we have now.

13. Closed Issues and Action Items

1. Rational Version compatability
- ClearCase and Rational Suite versions do not have to be the same for each of the products to be co-hosted. Version matching is required for Suite and Case integration, but they will not be integrated in this environment.
- All Suite products will be version 2002

2. Validate connectivity between dev app server and prod/dev Oracle. Closed, Chuck, Jay Rich validated connectivity is controlled via tnsnamse entries. Jay has AI to provide detail
3. All Access database will be migrated to Oracle before the upgrade. Access database will not be installed in the upgrade environment.
4. Flex LM can be run on either UNIX or NT to support any and all installations on any platform. If apps are on NT, then just point to the appropriate license server. Also, you can use a FlexLM server that is supporting other non-Rational Apps. If you plan on doing this, I will get the specifics from the licensing manual and we can work it out. FLEXlm will be on the W2K “app” server
5. Rational ProjectConsole is not in scope
6. Backup and restore, and stress testing for the webs server are internal to VDC/FSA procedures and out of scope for this plan.

W2K Server type and Service Pack